

Learn To Teach Computational Thinking Skills

Computational thinking (CT) skills are super essential in STEM careers and should be developed with great emphasis through various levels of college education. Practically, any classes that require using a computer to solve problems is a good place to teach CT skills. I do not have the opportunity to select my own classes each semester, but when I am assigned with any, I try to incorporate CT into my classes. I personally have had opportunities to teach a few in my upper-division and graduate-level math courses. Particularly, I have accentuated CT in my Mathematical Computation and Mathematical Modeling. One can start with some simple exercises as easy as creating conditional statements for the if-loops and move up to an elaborate class project. However, I sometimes get frustrated teaching CT. I have tried using the “Monkeys see, Monkeys do” approach, I usually start by providing students with plenty of examples and then ask them to apply what they learn to similar problems. When I work out a problem, students clearly see why it is solved or programmed that way, but when I give them a slightly different exercise, many seem to get stuck. I am positively certain that there are approaches out there that can help me teach CT more effectively. My primary objective for this workshop is learn as many different pedagogy types and techniques as possible, so that I can help my students acquire more CT skills.